

~~USE OF CYCLIC FORCES TO EXPEDITE~~
~~REMODELING OF CRANIOFACIAL BONES~~
METHUD OF REALIGNING TEETH
UTILIZING CYCLICAL FORCES

BACKGROUND OF THE INVENTION

Orthodontics involves purposefully moving teeth towards a certain predefined pattern so that the tooth row has an esthetically pleasing look. The condition of crowded or crooked teeth is called malocclusion. Although ancient attempts to correct malocclusion date back to 1000 BC, modern orthodontics began slightly more than a century ago [Proffit et al., (1993) Mosby Year Book: St. Louis. pp. 266-288].

In late 1800s, Edward Angle placed metal bands on the teeth and used continuous wires that fit into the slots of the bands. Elastics were used to apply forces with a result of aligning the teeth along the "track" of the wire. The forces applied by Angle were static and continuous, meaning that once the forces have been generated by elastics, the forces are continuously present unless and until they decayed to nil.

Since Angle's practice, orthodontists have used static forces to induce orthodontic tooth movement. Contemporary orthodontic treatment takes an average of two years to complete in one patient, involving multiple visits and repeated activations; i.e., reasserting the force on the teeth. No one has attempted to determine whether cyclic forces; i.e., forces with rapidly varying magnitude over time, induce more rapid tooth movement than the presently used continuous forces.